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Levels and Conditions of Goal Acceptance

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Levels and Conditions of Goal Acceptance

A Thesis

Presented to the

Department of Psychology

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

University of Nebraska at Omaha

by

Kim James Kohlhepp

March 1985

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THESIS ACCEPTANCE

Accepted for the faculty of the Graduate College,
University of Nebraska, in partial fulfillment of the
requirements for the degree Master of Arts, University of
Nebraska at Omaha.

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ABSTRACT

The role of goal acceptance in goal setting theory was investigated through the application of Kelman's theory of social influence and multilevel models of goal acceptance. Subjects were 144 undergraduate students. A 2X2X2 factorial design was employed. The three factors were: (a) antecedents of compliance (reward versus no reward), (b) antecedents of internalization (high value relevance versus low value relevance), and (c) goal specificity (specified goals versus non-specified goals). Three measures of goal acceptance were differentially affected by the manipulations: (a) A measure of intention to complete was uniformly high and not affected by the manipulations. (b) Perceived effort toward the goal was affected by both the specificity and internalization manipulations. Specified goal and value relevance conditions showed greater perceived effort. (c) Goal specificity and compliance manipulations interacted on an item measuring goal ownership. Error rate was not found to be affected by the manipulations. Specified goals resulted in higher performance and greater task interest than non-specified goals. Limited support was found for a multilevel view of goal acceptance.

The basis of Locke's (1968) theory of goal setting is the proposition that an individual's goals are the primary determinants of task performance: "the terms goal and intention will be used in their vernacular meaning as 'what the individual is consciously trying to do'" (Locke, 1968, pp. 158-159).

The major tenets of Locke's (1968) theory are as follows: (a) specific goals lead to higher performance than general goals, (b) the more difficult the goal, the higher the level of performance, and (c) incentives have an effect on task performance only through their effects on goals. However, Locke (1968) also argued that goals affect task performance only to the extent that they are accepted by the individual. It is this point which is the focus of the present study.

Locke (1968) is very clear on the point that goal acceptance is critical when a goal is assigned:

one of the most efficient ways to get somebody to do something is to ask him, i.e., to assign him a goal or task. But it is important to recognize that instructions do not inevitably nor automatically affect an individual's goals or intentions . . . Our theory suggests that instructions will affect behavior only if they are consciously accepted by the individual and

translated into specific goals or intentions.

(pp. 173-174)

Goal acceptance thus plays a critical role in Locke's theory. If an assigned goal is to have an effect on performance, it must be accepted. Locke views incentives such as participation in goal setting and money as having their effects on performance through goal acceptance:

"The most direct effect of participation is probably to commit a subject to the decision reached (as with money), whatever that might be" (p. 185).

Most of the major tenets of Locke's theory have been supported in both laboratory and field settings (Latham & Yukl, 1975a; Locke, Shaw, Saari, & Latham, 1981; Steers & Porter, 1974). One part of Locke's theory, notable because of its lack of empirical support, is the hypothesized role of goal acceptance. In their review, Locke et al. (1981) came to the conclusion: "Generally, attempts to measure degree of goal commitment in a manner that will differentiate between experimental treatments and/or relate to task performance have failed" (p. 143).

Dossett (1981) points out that one problem with much past research in goal acceptance may be an oversimplification of the constructs of goal acceptance and goal commitment. This oversimplification may have been one reason for the paucity of meaningful results in

goal acceptance research. If relevant variables are not systematically manipulated, inconsistent results are to be expected. Two multilevel models of goal acceptance have been advanced (Dossett, 1981; Oldham, 1975). These models help to clarify the nature of goal acceptance and point to more systematic framework from which to view the construct. Both of these models conceptualize goal acceptance and commitment as complex constructs having different levels. Each level has different determinants and different effects on task performance. Such multilevel approaches provide a basis for a better understanding of goal acceptance.

A multilevel view of goal acceptance is quite consistent with a view of goal acceptance as a function of social influence. Locke et al. (1981) suggest that social influence may be a determinant of goal acceptance. Kelman's (1961) theory of social influence represents an excellent frame of reference for understanding how different types of social influence may lead to different levels of goal acceptance.

Kelman (1961) describes three processes by which individuals respond to social influence: compliance, identification and internalization. Kelman's theory, taken together with the multilevel models of Dossett and Oldham represent a meaningful theoretical approach to the

problem of goal acceptance. The present research is an attempt to integrate these approaches to goal acceptance and demonstrate that goal acceptance may be viewed as a multilevel construct resulting from social influence. To this end, research in goal acceptance will be reviewed followed by a discussion of social influence and multilevel models of goal acceptance. Finally, the design and hypotheses of the present study will be presented.

Research in Goal Acceptance

A number of studies have been undertaken to investigate the relationship between goal acceptance and task performance. The results from these studies have been mixed, but in most cases have failed to find support for the theoretical role that Locke proposed for goal acceptance.

Research on goal acceptance may be considered as falling into three general areas: (a) Goal acceptance as a moderator between participation in goal setting and performance. (b) Goal acceptance as a moderator between other incentives and performance, and (c) The relationship of goal acceptance itself to performance.

Goal Acceptance and Participation. The notion of goal acceptance has received much attention as a possible mediator between participation in goal setting and improvements in task performance. Early studies

concerning the effects of participation in goal setting and task performance (Carroll & Tosi, 1970; French, Kay, & Meyer, 1966; Latham & Yukl, 1975b, 1976; Steers, 1975) found mixed results. In their review, Latham and Yukl (1975a) observed: "Although most of the studies found some evidence supporting the superiority of participative goal setting, a significant difference is found only under certain conditions or with certain types of employees" (p. 840). Latham and Yukl suggested two possible explanations for the superiority of participative goal setting, where it exists: (a) The relationship may be due to higher goals being set by individuals under participative conditions. (b) Participation may lead to more goal acceptance which in turn leads to higher performance.

The latter hypothesis is of greater interest here. If participation could be shown to have its effect through goal acceptance, then support would be provided for the general role of goal acceptance as an important factor in goal setting. A number of studies have been performed which have investigated these two competing hypotheses. In a study involving scientists and engineers in a work setting, Latham, Mitchell and Dossett (1978) placed individuals into either participative or assigned goal conditions. In addition, three incentive conditions were used: private recognition, public recognition, and

monetary bonus. No significant main or interaction effects were found for an item measuring goal acceptance. On the other hand, employees in participative conditions set higher goals than those in assigned goal conditions. Performance was also slightly higher in participative conditions as compared to assigned conditions, although the comparison did not reach statistical significance. In this case it seems that the effects of participative goal setting were due to changes in goal level, not due to goal acceptance.

Yukl and Latham (1978) investigated participative versus assigned goal setting in a field setting with typists. Taking into account the notion that participation seems to work only with certain individuals, Yukl and Latham measured a number of personality factors and tested for a moderating influence. They hypothesized that participation leads to greater goal acceptance in individuals possessing any one of four characteristics: (a) strong need for achievement, (b) strong need for independence, (c) high self-esteem, (d) perceived internal locus of control. Goal acceptance, as measured by a single item, was used as a dependent variable in four separate analyses of variance. Each was a two-way analysis using participative versus assigned goals and high versus low trait values. No main or interaction

effects were found on goal acceptance in any of these analyses. Yukl and Latham did find, however, that where individuals participated in goal setting, those employees with high need for achievement or an internal locus of control tended to set higher goals.

Two studies which relate to the relationship of goal acceptance and participation were reported by Dossett, Latham, and Mitchell (1979). In study 1, sixty female clerical personnel were assigned to participative, assigned or do-your-best goal conditions. The task was a clerical test, and goal acceptance was measured by a single item. Goal difficulty was held constant across the assigned and participative conditions. Individuals in the assigned goal condition were assigned a goal which was identical to a randomly chosen individual in the corresponding participative condition. No significant differences were found between the participative and assigned conditions for goal acceptance or for number of problems attempted on the test.

Dossett et al.'s study 2 involved 28 clerical personnel in a performance appraisal context over an eight month period. Individuals were matched according to previous performance and placed into participative or assigned goal conditions. Goal difficulty was held constant by giving goals to individuals in assigned goal

conditions which were identical to the matched individual in the participative condition. Goal acceptance was measured by a five item scale.

The difference between assigned and participative groups reached significance for goal acceptance in the first goal setting/appraisal session; however, the difference was in a direction opposite to that predicted. Individuals in assigned goal conditions showed significantly higher goal acceptance than those in the participative condition. In the later session, the difference was in the same direction but did not reach significance.

An analysis of the individual items in the goal acceptance scale showed that only the item measuring the employees' perception of the link between goal attainment and favorable consequences discriminated between assigned and participative conditions. Employees in assigned conditions rated goal attainment as more advantageous.

Latham and Saari (1979a) hypothesized that individuals who participate in goal setting would show greater goal acceptance than those who were assigned goals when goal difficulty was held constant. Their study involved college students performing a brainstorming task in a laboratory setting. Goal difficulty was held constant by yoking goals for subjects in assigned and

participative groups. Goal acceptance was measured by three items. No significant differences were found for goal acceptance between the assigned and participative goal setting conditions.

Similar results were found in another study by the same authors (Latham & Saari, 1979b). In this case, subjects in a laboratory setting worked on a brainstorming task. A 2X3 design was used in which subjects were assigned to a supportive or non-supportive supervisor condition and to an assigned, participative, or do-your-best goal condition. Goal difficulty was held constant across assigned and participative groups by yoking. No main or interaction effects were found on goal acceptance, as measured by three items.

To summarize, research has provided little support for the notion that participation in goal setting has an effect on goal acceptance. In studies where goal difficulty is not held constant across assigned and participative conditions (Latham et al., 1978; Yukl & Latham, 1978), subjects tended to set higher goals in participative conditions but show no more goal acceptance than individuals in assigned goal conditions. In those studies where goal difficulty was held constant (Dossett et al., 1979; Latham & Saari, 1979a; 1979b) no differences in acceptance were found, with the exception

of Dossett et al.'s (1979) unexpected finding in study 2 that acceptance was higher in assigned goal conditions at the start of the study.

With regard to Latham and Yukl's (1975a) hypotheses, it seems clear that when participation has an effect, it is due to the setting of higher goals and not due to an increase in goal acceptance. This body of research, taken as a whole, offers convincing evidence that the effects of participation on performance are not mediated by goal acceptance. Participation does not seem to be a determinant of goal acceptance. This line of research has not provided an explanation for the causes of goal acceptance nor has it provided support for the role of acceptance in goal setting theory. This suggests that other avenues of research must be explored if a better understanding of goal acceptance is to be achieved.

Goal Acceptance and Incentives. Another line of research has investigated the idea that various other incentives have their effect on performance through goal acceptance. Offering an incentive may increase the individuals acceptance of a goal and so cause an improvement in performance. Locke (1968) expressed the relationship in this way:

One effect of a well-run incentive system is
that (providing the workers value money) it will

encourage workers to accept tasks and set goals that they would not accept or set on their own (i.e., for the intrinsic enjoyment of the work itself). Thus, money can serve to commit subjects to tasks which they would not otherwise undertake. (p. 175)

Pritchard and Curts (1973) utilized a card sorting task in a laboratory setting. Subjects in goal conditions were offered no incentive, 50 cents or three dollars for goal attainment. No difference was found in performance between the no incentive and the 50 cents conditions, but subjects in the three dollar incentive condition showed significantly better performance than the no incentive condition. Two items were used to assess goal acceptance. Subjects in all conditions expressed a high degree of acceptance. It is interesting to note that ratings of acceptance were slightly lower in high incentive conditions relative to no incentive conditions. However, this comparison did not reach significance.

London and Oldham (1976) conducted a laboratory study of incentives involving a card sorting task. Minimum performance goals and high performance goals were set for subjects over three trials. The study also involved three incentive conditions. Some subjects received no pay, some were in a piece rate condition where they received one

cent per card sorted, and some subjects were in a fixed-rate condition where they received two dollars at the end of the session, regardless of the number of cards sorted. Two measures of acceptance were obtained. One item measured commitment to the minimum level and the other item measured commitment to the high performance goal. London and Oldham performed a separate analysis on individuals who expressed high commitment (89% of the sample) and for the total sample. They found no differences between these two analyses and so concluded that "expressed commitment did not mediate the effects of goal setting" (p. 541).

The Latham et al. (1978) study previously described also included a test of the effects of incentives on goal acceptance. No differences in goal acceptance were found between conditions involving private recognition, public recognition, and a monetary bonus. It is difficult to ascertain whether goal acceptance was unaffected by these incentives since the study lacked a true no incentive control group.

Another study reviewed above, Yukl and Latham (1978), also addressed the effects of incentives on goal acceptance. Yukl and Latham hypothesized that "Goal acceptance mediates the effect of incentives on performance. The greater the perceived instrumentality of

goal attainment for obtaining extrinsic rewards, the greater the goal acceptance and the more likely it is that goal setting will affect performance" (p. 138). They found that goal instrumentality was significantly correlated with performance improvement measures, while goal acceptance was not significantly correlated with performance improvement, and the relationship with goal instrumentality was weak. Again, little support was found for the notion that goal acceptance mediates the effects in incentives on performance. It should be noted that the study was correlational, and the authors point out that the measure of goal acceptance was correlated with job satisfaction. The item designed to measure goal acceptance may have been measuring some other construct.

Mento, Cartledge, and Locke's (1980) study 1 took place in a laboratory setting using a test of perceptual speed as a task. The design involved three levels of monetary incentive. Incentives were twenty-five cents, fifty cents, and one dollar and fifty cents respectively for the three incentive conditions. A measure of goal acceptance was obtained by a single item. Mento et al. used the 5-point scale to place subjects into two categories: goal acceptors and goal rejecters. Both goal valence and expectancy were positively related to goal acceptance. Goal acceptance was not related to effort;

however, the authors point out that there was evidence that many goal rejecters were trying for a goal higher than the one assigned. Mento et al. found that personal goals were a good predictor of effort.

Again, there is little support for Locke's hypothesized role of goal acceptance. The research in this area lends little support to the notion that goal acceptance mediates the relationship between incentives and performance. Latham et al. (1978), London and Oldham (1976), Pritchard and Curts (1973), and Yukl and Latham (1978) all found no evidence for such a moderating influence. Mento et al. (1980) found some evidence in that goal acceptance was related to goal valence and expectancy but not to effort. The weight of evidence is against the mediating role of goal acceptance; however this evidence is not strong. While little support was found in these studies, no study was a strong test of the hypothesis.

There is a mechanism other than goal acceptance which could relate goal setting, incentives, and performance. Locke (1968) suggested that goal level may be affected by incentives. Locke, Bryan, and Kendall (1968) found such an effect. However, numerous studies since theirs have found incentive effects independent of goal level (Latham et al., 1978; Pritchard & Curts, 1973; Terborg, 1976;

Terborg & Miller, 1978). In reviewing this literature, Locke et al. (1981) conclude: "money can affect task performance independently of goal level. The most plausible mechanism for this effect appears to be goal commitment" (p. 137). Although tests of this hypothesis have failed to support it, these studies have not been strong. Goal acceptance remains a possible explanation relating incentives, goals, and performance.

Goal Acceptance and Performance. A number of studies have investigated the relatively straight-forward proposition that goal acceptance should be positively related to performance. Surprisingly, even this effect has been hard to find. As may be recalled, London and Oldham (1976), Mento et al.'s (1980) study 2, and Yukl and Latham (1978), all described above, found no relationship between goal acceptance and performance.

Oldham (1975) also failed to find such a relationship; however, certain results from his study are suggestive. Oldham presented subjects in a laboratory setting with generally positive or generally negative characteristics in their work supervisor. The characteristics were drawn from French and Raven's (1959) bases of social power. Oldham hypothesized that the more positively subjects perceived their supervisor, the greater the goal acceptance and the greater the task

performance. Positive characteristics of supervision led to greater goal acceptance on one of three measures of the construct; however, task performance was not affected by supervisor characteristics nor was performance correlated with any of the three measures of goal acceptance.

Additional analyses done by Oldham are of interest here. The three measures of goal acceptance made reference to intention to complete, intention to work hard, and internalization. Intention to complete was significantly correlated with perceived instrumentality of the supervisor. Intention to work hard was significantly correlated with perceived legitimacy and personal trust in the supervisor. Although Oldham's major analyses did not yield support for the hypothesized role of goal acceptance, these correlations suggest some type of relationship between social influence and goal acceptance. It is interesting that the items measuring different aspects of goal acceptance correlated with different supervisory characteristics.

Oldham also correlated perceptions of meaningfulness and challenge of the task with goal acceptance items and performance measures. It was found that the perceived meaningfulness and challenge of the task was related to performance quality and to goal acceptance as measured by the internalization and intention to work hard items.

Meaningfulness/challenge did not relate to intention to complete.

These results led Oldham to propose that goal acceptance is a multilevel construct. Oldham suggested that:

Individuals accept goals at varying levels of intensity. It is predicted that the three items measuring goal acceptance . . . tapped different levels on this continuum . . . the intention to complete dimension tapped one of the lower levels of goal acceptance . . . The internalization and intention to work hard items may be considered to have tapped the middle range. (p. 473)

Oldham proposed that apart from being subject to different types of social influence, higher levels of goal acceptance may also be influenced by characteristics such as the meaningfulness or challenge of the task. The present study is based in part on Oldham's view of goal acceptance as a multilevel construct.

Another test of the relationship between goal acceptance and performance was conducted by Frost and Mahoney (1976). This laboratory study involved two tasks: a reading test and a jigsaw puzzle. As a measure of goal acceptance, subjects were asked how hard they tried to

reach the assigned goal on a three-point scale. No significant effect was found for acceptance on level of performance on either task.

Organ's (1977) study 2 examined the relationship between goal acceptance and performance in a laboratory setting. Subjects were assigned to no-goal, moderate-goal, hard-goal, or self-set goal conditions using an anagram solving task. Acceptance was assessed in all conditions (except no-goal) by the use of two items. During the course of the experiment, subjects were given free choice as to the difficulty of anagrams they could attempt to solve. Anagrams were classified as easy, medium, or difficult.

Significant correlations between performance measures and goal acceptance were found in this study. Organ reported the correlations between acceptance and the number of easy, medium, and difficult anagrams solved for each goal setting condition. It is suggestive that the strongest relationship between acceptance and number of difficult anagrams solved was found in the hard-goal condition. The strongest relationship between number of medium anagrams solved and acceptance was in the moderate-goal condition.

Organ found a relationship between goal acceptance and performance where such a relationship had not been

found in most other research. Although Locke et al. (1981) classify these results as uninterpretable, it is possible that these relationships were found because the nature of performance measurement in Organ's study allowed small differences in acceptance to emerge. As in most studies in this area, goal acceptance was relatively high in all conditions. The difference in this study was that goal acceptance in different conditions may have suggested different strategies to the subjects. It follows that a strong degree of acceptance in the moderate-goal condition may have led to a greater choice of medium anagrams. Similarly, in the hard-goal condition, greater acceptance may have led to the strategy of choosing more difficult words. Evidence for a goal acceptance/performance relationship may have emerged in this study because more opportunity was given for the expression of goal acceptance. In most studies, it may be expressed only as effort, in this case, goal acceptance could be expressed both as effort and in strategy. This may have helped to bring out a small acceptance effect in a sample of generally accepting subjects.

The most successful demonstration to date supporting the role proposed for goal acceptance in goal setting theory was by Erez and Zidon (1984). Subjects were technicians and engineers attending training courses. The

task was a perceptual speed test. The design of the experiment involved two separate phases as well as a control group. In the first phase, subjects performed seven two-minute trials where assigned goal difficulty increased progressively from the first (easy) to the seventh (impossible) trial. Goal acceptance and subjective difficulty were measured before each trial. The control group was identical except a do-your-best type goal was assigned before each trial. The second phase of the experiment was the same as the first, except additional instructions were used to influence subjects to be less quick to accept the assigned goals. Before this second phase, subjects were given fictional information to the effect that research workers of high status showed less goal acceptance than other subjects:

The underlying reasoning explicitly conveyed to the participants in undertaking this comparison was as follows: "Performing in groups generally favors higher goal acceptance because of latent competition among members to excel; at the same time, researchers with analytical thinking are not biased by this latent competition and make their own cool independent decisions of accepting or rejecting impossible goals" (p. 71).

Erez and Zidon found a decrease in goal acceptance with increases in goal difficulty over trials. In both the control group and phase 1 group, goal acceptance decreased over trials, but remained positive. In phase 2, goal acceptance decreased over trials as well, but in addition, mean scores indicated goal rejection after the third trial. After the second trial, goal acceptance was significantly lower for phase 2 as compared to phase 1.

The most interesting result was support for the notion that goal acceptance moderates the relationship between goal difficulty and performance. Performance was related positively and linearly to difficulty in phase 1, where goal acceptance was positive throughout all seven trials. In phase 2, subjects first accepted then rejected goals over trials. During those trials where goal acceptance was positive, performance was positively related to difficulty. When the goals were rejected, a negative relationship was in evidence over trials between difficulty and performance.

Erez and Zidon also illustrated the effects of acceptance by comparing the performance of subjects who accepted versus those who rejected the assigned goals. Mean performance for goal acceptors was significantly higher than performance of rejecters on all trials.

In summary, much of the research in this area has

failed to find a relationship between goal acceptance and performance (Frost & Mahoney, 1976; London & Oldham, 1976; Mento et al., 1980; Yukl & Latham, 1978). One study (Oldham, 1975) found suggestive results. Two studies found a relationship between goal acceptance and performance (Erez & Zidon, 1984; Organ, 1977).

The most telling difference between studies with positive results and those with negative results is an attempt in the former to give subjects an opportunity to express goal acceptance. Because of the nature of the experimental setting, subjects are may tend to accept any goal assigned to them. Oldham (1975) attempted to increase the variance of goal acceptance by using techniques of social influence. Organ's (1977) study allowed subjects an opportunity to express acceptance both in terms of effort and strategy. Erez and Zidon (1984) used both social influence and increasing goal difficulty over trials to increase the variance of acceptance. As Erez and Zidon observed: "The successful manipulation of acceptance provides the necessary condition for testing for its effect" (p. 77).

Social Influence and Multilevel Models of Acceptance

In their review of research in goal setting, Locke et al. (1981) suggest several possible reasons for the generally negative results in goal acceptance research:

(a) measures of acceptance and commitment may not be valid; (b) subjects in most studies show almost complete acceptance or commitment, resulting in restriction in range; (c) subjects may be unable to discriminate small differences in acceptance or commitment due to limited ability in introspection.

As a possible solution to the last two of these problems, Locke et al. suggest the use of "designs that encourage a wide range of goal commitment" (p. 144). It is clear that this very approach was used in studies where positive results were found (Erez and Zidon, 1984; Organ, 1977; and to an extent Oldham, 1975).

Although Locke et al.'s criticisms apply, there may be yet another problem in much of the previous research in this area: an inadequate and overly simplified conceptualization of the construct of goal acceptance.

Oldham's (1975) multilevel model of goal acceptance, briefly described above, is of direct relevance here. Oldham suggests that: "individuals may accept and internalize goals to varying degrees, and that different aspects in the work environment may differentially affect goal acceptance at these several levels" (p. 473). Oldham maintains that different items measuring goal acceptance may tap different levels of this construct. These levels, in turn, may have differential effects on performance,

higher levels of acceptance having a greater effect on task performance.

Dossett (1981) offers another approach to goal acceptance as a multilevel construct. In his model, goal acceptance and goal commitment are seen as two theoretically distinct constructs roughly corresponding to Oldham's lower and higher varieties of goal acceptance. Dossett's model of goal acceptance and commitment is based on the individual's attributions of causality. Attributions of internal causation lead to goal commitment. Attributions of external causation lead to goal acceptance.

Self-set and assigned goals are represented by separate models in Dossett's conceptualization. The major distinction between the two models is that self-set goals lead more directly to goal commitment. With self-set goals, a sufficient internal attribution leads directly to goal commitment, regardless of external attributions. An assigned goal, however, will not lead to commitment if there are sufficient external attributions, regardless of internal attributions. Such a situation leads to acceptance. With regard to the behavioral implications of acceptance and commitment, Dossett suggests:

Goal acceptance (extrinsic justification) should be different from goal commitment (intrinsic

justification) not in quantity but in quality. In terms of performance, the difference should be manifest not in total effort but in performance net of errors, not in level of arousal but in persistence in the face of difficulty or failure. On an intrinsically interesting task, goal commitment should result in task behavior continued beyond the point of formal task or goal completion. (p. 4)

Dossett (1981) maintains: "A fundamental problem that has plagued the study of goal acceptance both theoretically and in operation is the confusion of the constructs of goal acceptance and goal commitment" (p. 3).

The terms goal acceptance and commitment have been defined in a number of ways. Dossett's (1981) review clearly illustrates that the terms have been used interchangeably, sometimes referring to instrumentality of assigned goals, sometimes to intrinsic motivation, and often to both.

Locke et al. (1981) have presented definitions which distinguish between the two constructs:

Goal commitment implies a determination to try for a goal (or to keep trying for a goal), but the source of the goal is not specified
 . . . Goal acceptance implies that one has

agreed to commit oneself to a goal assigned or suggested by another person . . . Since most studies use assigned goals, the two concepts can often be used interchangeably. (p. 143)

These definitions summarize the conceptualization of the constructs in much previous research: interchangeable terms which lack theoretical precision. Dossett's (1981) model, like that of Oldham (1975), represents a more sophisticated theoretical position.

If goal acceptance is a multilevel construct, as both Dossett and Oldham maintain, then it is not surprising that past research has yielded inconsistent results. Different levels of goal acceptance would have different determinants, have differential relationships to task performance, and be measured by different types of items. The lack of systematic manipulation of relevant variables could only be expected to lead to inconsistent results.

One of the suggestions for future research in this area made by Locke et al. (1981) was:

Different degrees of goal commitment might be induced by varying types or degrees of social influence . . . Such influences undoubtedly have profound effects on goal choice and commitment among certain individuals. (p. 144)

This approach is quite consistent with a multilevel

approach to goal acceptance. Qualitatively different types of social influence may lead to qualitatively different forms of acceptance. Further, an understanding of the effects of social influence would help provide an explanation of the determinants of goal acceptance. As Latham and Yukl (1975a) observed: "Perhaps the greatest deficiency of Locke's theory is the failure to specify the determinants of goal acceptance and goal commitment" (p. 841).

A theory of social influence which is well suited to the present problem was presented by Kelman (1961). Three processes are described by which individuals respond to social influence:

(a) Compliance can be said to occur when an individual accepts influence from another person or from a group because he hopes to achieve a favorable reaction from the other. He may be interested in attaining certain specific rewards or avoiding certain specific punishments that the influencing agent controls . . . what the individual learns, essentially, is to say or do the expected thing in special situations, regardless of what his private beliefs may be. Opinions adopted through compliance should be expressed only when the person's behavior is

observable by the influencing agents. (pp. 62-63)

(b) Identification can be said to occur when an individual adopts behavior derived from another person or group because this behavior is associated with a satisfying self-defining relationship to this person or group . . . The relationship that an individual tries to establish or maintain through identification may take different forms. It may take the form of classical identification, that is, of a relationship in which the individual takes over all or part of the role of the influencing agent . . . identification may also take the the form of a reciprocal role relationship--that is, of a relationship in which the roles of the two parties are defined with reference to one another . . . the individual is not identifying with the other in the sense of taking over his identity, but in the sense of empathically reacting in terms of the other person's expectations, feelings, or needs . . . Identification may also serve to maintain an individual's relationship to a group in which his self-definition is unchanged. Such a

relationship may have elements of classical identification as well as of reciprocal roles. (pp. 63-64)

(c) Finally, internalization can be said to occur when an individual accepts influence because the induced behavior is congruent with his value system. It is the induced behavior that is intrinsically rewarding here. The individual adopts it because he finds it useful for the solution of a problem, or because it is congenial to his own orientation, or because it is demanded by his own values--in short, because he perceives it as inherently conducive to the maximization of his values. (p. 65)

Kelman (1961) proposed a distinct set of antecedents and consequents for each of the three processes. Kelman describes the conditions of performance under which the induced response will occur for each of the three processes:

- (a) When an individual adopts an induced response through compliance, he tends to perform it only under conditions of surveillance by the influencing agent. (p. 69)
- (b) When the individual adopts an induced response through identification, he tends to

perform it only under conditions of salience of his relationship to the agent." (p. 69)

(c) When an individual adopts an induced response through internalization he tends to perform it under conditions of relevance of the values which were initially involved in the influence situation. (p. 70)

Kelman (1974) points out the relevance of social influence to assigned goals, personal goals, and behavior: we can describe an influence situation--in its most general form--as one in which an influencing agent offers some new behavior to a person and communicates to him, in some fashion, that adoption of this behavior will have certain implications for the achievement of his goals. Presumably, P will be positively influenced if he anticipates that adoption of the induced behavior is likely to facilitate goal achievement. He will be negatively influenced if he anticipates that a behavior contrary to that induced is likely to facilitate goal achievement. (p. 131)

Kelman's (1958) study was designed to test his theory. Antecedents of the three processes were manipulated and the effects of these manipulations were

assessed under various conditions of performance. Subjects were exposed to a tape recording which contained a message that pretesting had indicated a majority would oppose. Each individual was exposed to one of four versions of the message where the bases of power of the communicator were varied: (a) means control--antecedent of compliance, (b) attractiveness--antecedent of identification, (c) credibility--antecedent of internalization, and (d) a communicator low in all three bases of power. Subjects then responded to three questionnaires containing an attitude scale concerning the message. These questionnaires were administered under different conditions of performance: (a) salience of relationship to the influencing agent and surveillance by the agent, (b) salience/non-surveillance, and (c) non-salience/non-surveillance. Kelman hypothesized: "Attitudes adopted from a communicator whose power is based on means control will tend to be expressed only under conditions of surveillance . . . Attitudes adopted from a communicator whose power is based on attractiveness will tend to be expressed only under conditions of salience . . . Attitudes adopted from a communicator whose power is based on credibility will tend to be expressed under conditions of relevance of the issue" (pp. 56-57). It should be noted that the condition of relevance existed

across all treatments. The results of the experiment supported the hypotheses advanced by Kelman. Subjects in means control groups expressed significantly more agreement when under conditions of surveillance. Subjects in attractiveness groups expressed significantly more agreement when under conditions of salience. The level of agreement of subjects in both credibility and low power groups showed no significant differences across the various conditions of performance.

The application of Kelman's conceptually well-developed model to the problem of goal acceptance and commitment may prove useful. Compliance corresponds to Oldham's lower order goal acceptance and Dossett's definition of goal acceptance as external justification. Individuals subject to compliance would perceive the justification for their behavior to be external. On the other hand, an individual subject to identification or internalization would perceive the locus of causality as internal and thus experience Oldham's higher order goal acceptance or goal commitment as defined by Dossett. The concepts of goal acceptance, commitment and Kelman's three processes are all examples of how individuals respond to influences on their behavior.

The lack of relationship between measures of goal acceptance/commitment and performance in previous research

may be a result of an oversimplification of the response to influence. Assuming Kelman's model has validity, the relationship between scales measuring an individuals response to influence and performance would depend on the situation under which performance is measured and the type of process which is in effect. As discussed previously, a lack of systematic manipulation of the relevant variables would lead to inconsistent results.

The present research involves an application of Kelman's concepts of compliance and internalization to an assigned goal situation. These two processes were chosen for a number of reasons. The processes of internalization and compliance seem to correspond closely to the type of influence situations found most often in applied settings. Individuals on the job may work hard in order to receive rewards, such as increased pay, or to avoid punishment, such as dismissal. This would correspond to the process of compliance. Examples of performance on the job mediated by internalization are also common: one may work to achieve the feeling of a job well done, or because one feels the results of one's work benefits others, or because the work is found to be intrinsically enjoyable. All these are examples of internalization. Examples of work behavior mediated by identification seem less common.

The principles of compliance and internalization have

also been implicitly recognized in the goal setting literature. Concerning the issues involved in compliance and the need for surveillance if a behavior mediated by this process is to be expressed, Locke (1968) stated that: "The subject's degree of commitment to his goal may play an important role in determining . . . how likely he will 'goof off' when not being pressured from the outside" (p. 186). Similarly, Ronan, Latham, and Kinne (1973) found that goal setting was related to high performance in logging crews only when these crews were closely supervised. Such results could be neatly explained if one assumes the mediating process was compliance. Jamison (1973), in describing the behavioral problems involved in Management by Objectives (MBO) programs explicitly points out the relevance of Kelman's constructs:

There is a danger that objective oriented systems may have only short-term impact. Enthusiasm and support may wane, and the need to cope with the procedural demands and interpersonal complexities of some MBO systems may force managers into compliance with only minimal formal requirements or, at best, superficial support. (p. 503)

Constructs similar to internalization have also been present in the goal setting literature. Steers and Porter

(1974), for example, describe goal acceptance as including "a strong positive attitude toward such goals that may be likened to goal ownership" (p. 444).

Design and Hypotheses

The present study is an extension of Kelman's (1961) model of social influence to task performance in a situation involving assigned goals. If Kelman's theory represents an explanation of determinants of various levels of goal acceptance, then one would expect task performance and measures of goal acceptance to vary according to the type of social influence process involved in the situation.

In the present study, subjects were exposed to instructions which either gave the promise of a reward for goal achievement (compliance/reward) or did not offer a reward (low compliance/no reward). Subjects were also given instructions which either tied goal achievement to their value systems (internalization/value relevance) or did not tie goal achievement to their value systems (low internalization/low value relevance). At the same time, subjects were assigned goals which were either clear and specific (specified goal) or less clear and more general (non-specified goal). The first two manipulations (compliance and internalization) follow directly from the previous discussion. The goal specificity manipulation is

based on Locke's (1968) notion that specific goals lead to better performance than general goals. The design of the study allows the assessment of effects of specificity on goal acceptance. It is predicted that goal acceptance may mediate the effects of specificity on performance.

Three different goal acceptance items are used in this study. These items, adapted from Oldham (1975), concern intention to complete the goal, effort toward the goal, and feelings of goal ownership, respectively. It was Oldham's opinion, supported by his results, that these items measure different levels of goal acceptance: the intention to complete item measuring a lower level than the effort and ownership items.

Based primarily upon Oldham's model and Kelman's theory, and in part on Dossett's model, the following hypotheses are advanced:

Hypothesis 1: Goal acceptance, as measured by the intention to complete item, should be greater in reward conditions as compared to no reward conditions. No difference is predicted for the two higher level acceptance items. The reasoning here is that Kelman's process of compliance impacts only on the lowest levels of acceptance.

Hypothesis 2: Goal acceptance, as measured by all items, should be greater in value relevance conditions as

compared to low value relevance conditions. The process of internalization is predicted to impact not only on the lower level of acceptance, but on higher levels as well.

Hypothesis 3: Goal acceptance, as measured by all three items, should be greater in specified goal conditions as compared to non-specified goal conditions. Previous research (see Locke et al., 1981) has shown that specific goals lead to higher performance than general goals. However, previous research did not include the assessment of goal acceptance in non-specific goal conditions. It is possible that one of the reasons that specific goals are superior is that they lead to greater acceptance of the goal. An individual may be more inclined to accept a goal if that goal is clear and the person knows exactly what is expected in terms of performance. It may be difficult to commit oneself to a course of action which is unclear. The present research allows the assessment of goal acceptance in non-specified goal conditions, and so allows a test of this hypothesis.

The manipulations are expected not only to have an effect on goal acceptance, but on performance as well.

Hypothesis 4: Performance should be higher in reward conditions as compared to no reward conditions. The presence of reward is expected to impact on goal acceptance. Greater acceptance should create improved

task performance.

Hypothesis 5: Performance should be higher in value relevance conditions as compared to low value relevance conditions. The value relevance of high performance is expected to impact on goal acceptance. This greater acceptance should create improved task performance.

Hypothesis 6: Performance should be higher in specified goal conditions as compared to non-specified goal conditions. This is one of the most robust effects in goal setting literature (Locke et al., 1981). Of particular interest here is the moderating influence of acceptance on the specificity-performance relationship.

Hypothesis 7: When a reward is not present, errors should be fewer in value relevance conditions as compared to low value relevance conditions. In reward conditions, no such difference should exist. Dossett (1981) suggested that goal commitment should impact on the amount of errors made. The manipulation of internalization should have an effect on commitment as defined by Dossett only when rewards are not present.

Hypothesis 8a: An exploratory hypothesis is advanced based on the Oldham (1975) study. Oldham speculated that subjects' perceptions of meaningfulness/challenge of the task have an impact on higher level goal acceptance and on task performance. His results lent some support to this

notion. It is hypothesized here that measures of intrinsic interest in the task should correlate with all goal acceptance measures and with task performance.

Hypothesis 8b: Mossholder (1980) found assigning specific goals on interesting tasks reduces task interest, while assigning specific goals on boring tasks increases task interest. Since the task in the present study should be boring to the subjects, it is predicted that individuals in specified goal conditions will perceive the task as more interesting than those in non-specified goal conditions.

Method

Subjects

Subjects were 144 undergraduate students (84 females and 60 males) drawn from psychology classes at the University of Nebraska at Omaha. Subjects received extra credit in their respective classes in return for their voluntary participation. Subjects in reward conditions also received one dollar if their performance reached a predetermined standard.

Design

A 2X2X2 factorial design was employed with 18 subjects assigned to each cell in the factorial matrix. Subjects in each experimental session were randomly assigned to a treatment cell. The three factors in the experiment were: (a) antecedents of compliance (reward versus no reward), (b) instructions designed to elicit different degrees of internalization (high value relevance versus low value relevance), and (c) goals of different degrees of specificity (specified goal versus non-specified goal). The major dependent variables in the study were measures of goal acceptance, production, errors, and task interest.

Procedure

Subjects participated in the study in groups ranging in size from five to eleven individuals. The first phase of the experiment was the same for subjects in all conditions. When subjects reported for the experimental session they were requested to read and complete a statement of informed consent if they wished to participate. A copy of this form may be found in Appendix A. Upon completion of the consent forms, subjects were given instructions for the experimental task.

The task which the subjects were requested to perform consisted of filling out computer optical scan sheets with a specified pattern of responses. The response forms used were NCS Trans-Optic Five Response General Purpose Answer Sheets. An example of the response sheets used and the pattern of responses requested can be found in Appendix B. In the first space, subjects were instructed to fill in the circle corresponding to the letter A. In the second space, B was to be filled; in the third space, C ; in the fourth space, D; and the fifth space, E. A descending pattern was then to be followed until A was again reached in the ninth response space. The subjects were instructed to repeat this pattern for the duration of the task. This resulted in a zig-zag pattern of dots in each column of the scan sheet (see Appendix B). If

subjects made an error, they were instructed not to correct it in any way, but to continue with the sequence.

After the nature of the task was explained, subjects were asked to perform the task during a two minute practice trial. They were instructed to work as quickly and accurately as possible. The experimenter timed this pretest and informed subjects when to start and stop. After completion of the pretest, the experimenter examined each individuals work to determine if the instructions for the task were understood. From this examination, it was clear that all subjects understood the nature of the task.

The subjects were then informed that they would work at the same task for 35 minutes. At this point the groups of subjects received instructions corresponding to the experimental conditions to which they were assigned.

Subjects first received instructions concerning the specified goal versus non-specified goal manipulation. Subjects in the specified goal conditions were instructed that their goal was to complete seven response sheets, front and back, during the 35 minute work period. Each response sheet had 240 spaces for responses. Therefore, the goal for subjects in specified goal conditions was 1680 responses in 35 minutes. Pilot studies indicated this to be a difficult but attainable goal for most subjects. In these studies, 44% of the subjects worked at

a rate where this goal could be achieved. The experimenter represented the goal as difficult but attainable to the subjects in the experiment. If a subject met the goal before time expired, it was explained that they were to continue working on the task. It was made clear to subjects that they would receive extra credit whether the goal was met or not.

Subjects in the non-specified goal conditions were told that their goal was to do their best. The experimenter showed the subjects a sealed envelope and explained that in the envelope was a performance standard which would not be revealed at that time. Subjects were told that the standard was difficult but attainable and if they did their best on the task they could meet the performance standard. It was explained that they would receive extra credit whether they met the standard or not.

In most goal setting studies, the non-specific goal manipulation is achieved by simply telling subjects to "do your best." The present research employed a rather unusual manipulation for a number of reasons. Subjects were informed that their goal was to do their best and if they did their best they would meet an undisclosed performance standard. This type of manipulation allows subjects to reasonably rate goal acceptance, even in non-specified goal conditions. Further, an undisclosed performance

standard allows the experimenter to offer a reward for goal attainment in non-specified goal conditions.

Instructions relating to compliance were given to subjects following the goal related instructions. In reward conditions, subjects were told that each individual who met the goal or performance standard would receive a one dollar reward. Subjects in pilot studies indicated that such a reward would cause them to work harder on an assigned task. It was explained that those who did not meet the goal would not receive a monetary reward.

Subjects in the no reward conditions were informed that they would receive no additional extra credit or reward of any kind for meeting the goal or performance standard.

Subjects next received instructions relating to the value relevance of the task. This manipulation centers on the process of internalization. In the high value relevance conditions, the experimenter represented the study as an investigation of the nature of repetitive work. Subjects were told that the results of past research in this area have been applied in industry, making otherwise boring jobs more interesting for the workers that hold them. The instructions were designed to emphasize the importance of the research and tie individual goal achievement and the success of the

experiment together for the subjects. It was explained that only data from subjects who met or exceeded the goal or performance standard could be included in the study. This instruction was used to create the impression that goal attainment would contribute to the success of the research, and failure to achieve the goal would not.

Subjects in the low value relevance conditions were instructed that their data would be of use whether they met the goal or not. No information concerning the nature or purpose of the research was given to subjects in the low value relevance conditions.

After subjects received instructions appropriate to their respective conditions, the experimenter briefly summarized all instructions, reminded subjects of their goals (specified or non-specified), and told them that they would now work on the task for 35 minutes. It was explained that breaks were permitted and subjects could work at their own pace within the framework of their goals.

The boring nature of the task, relatively long time period of performance, and the instruction concerning the permissibility of breaks were all designed to increase variance in task performance. Pilot studies demonstrated that the demand effects of the experimental situation generally create a high level of performance in subjects.

The manipulations in this experiment all have motivational implications. In effect, the long time period and boring task make performance a more sensitive indicator of motivation.

At this point, subjects were asked to move to individual rooms. For performance of the task, each subject worked alone in a room where visual contact with other subjects was not possible. When subjects were in place in their assigned rooms, the experimenter timed the task, informing subjects when to start and stop. As the subjects worked on the task, the experimenter made an announcement at five minute intervals.

When the 35 minute experimental task was over, the subjects in all conditions received the same 15 item questionnaire to complete. A number of items were adapted from Oldham (1975). The questionnaire may be found in Appendix C. All items were rated on a scale ranging from 1 (strongly agree) to 7 (strongly disagree).

The questionnaire contained two items designed to check for the effectiveness of each of the three manipulations. The effectiveness of the goal specificity manipulation was checked with the following items:

(a) "The experimenter set a specific goal for the task" and (b) "I had in mind a specific goal as I worked on the task."

The following two items were designed to check the effectiveness of the compliance manipulation: (a) "The experimenter will reward those who meet the goal" and (b) "The rewards the experimenter administers to individuals in this study will depend on how well they do on the task."

The internalization manipulation was checked with the two items: (a) "This type of research serves a useful purpose" and (b) "The results of this research may find application in the real world."

The questionnaire contained items designed to measure a number of other variables. The perceived value associated with goal attainment was measured with two items: (a) "Meeting the goal on the task would lead to results I find valuable" and (b) "There was a good reason for working toward the goal on the task."

The subjects' perceptions of the difficulty of the goal were measured with two items: (a) "I found the goal set by the experimenter very difficult" and (b) "The goal set by the experimenter was very hard."

The extent to which subjects accepted the goals they were assigned was measured by three items: (a) "It was my intention to meet the goal assigned by the experimenter," (b) "I tried hard to meet the assigned goal," and (c) "I thought of the goal assigned by the experimenter as my own

goal for the task." As may be recalled, Oldham (1975) proposed that these three items tap qualitatively different levels of goal acceptance: item a measuring lower level goal acceptance and items b and c measuring higher level goal acceptance.

In deciding if a questionnaire measuring goal acceptance should be administered before or after task performance, the researcher must consider the pitfalls in each strategy. Presenting the questionnaire before performance may prompt the subjects to change their attitudes and behaviors. For example, the nature of the items may create a more specific goal in conditions designed to have non-specific goals. On the other hand, the danger in administering the survey after performance is that goals and goal acceptance may change during the course of task performance. In the present case, the former danger was considered more damaging to the objectives of the study, so the questionnaire was administered after task performance. This decision is further supported by a number of findings indicating that the timing of questionnaire administration does not have a great effect in studies such as the present one. Oldham (1975) incorporated questionnaire administration time (before or after task performance) as a factor in his experimental design. No difference was found for

performance or goal acceptance measures. Dossett et al. (1979) found a correlation of .70 between goal acceptance as measured before and after task performance. Latham and Saari (1979a) found knowledge of goal attainment did not affect ratings of goal acceptance.

The extent to which subjects felt the task was interesting was measured by the following two items: (a) "The task was boring and repetitive" and (b) "The task was intrinsically interesting."

Following the administration of the questionnaire, subjects were asked to write, in their own words, their goal, purpose or objective in working on the experimental task.

At this point, subjects were informed that the experiment was over. Subjects were debriefed and individuals in reward conditions who met the goal or performance standard were given the promised monetary reward. The criterion for reward in the non-specified goal conditions was the same as that for specified goal conditions.

Results

Manipulation Checks

Goal Specificity. The extent to which subjects differed in their perceptions of goal specificity was assessed with items 2 and 12 in the post-experimental questionnaire (see Appendix C). Responses on these items were positively, though modestly correlated ($r=.20$, $p<.01$). Since these items were not strongly related, separate analyses were carried out for each item. Each item was used as the dependent variable in a separate two (specified versus non-specified goal) by two (reward versus no reward) by two (high value relevance versus low value relevance) analysis of variance.

Item 2: "The experimenter set a specific goal for this task" showed a significant specificity effect. Agreement was represented by lower numbers on the scale, therefore a smaller number indicates greater agreement with the item. The scale ranged from one (strongly agree) to seven (strongly disagree) for each item. The summary table for this analysis may be found in Table 1. Individuals in specified goal conditions ($M=1.58$, $SD=1.06$) expressed more agreement with this item than those in non-specified goal conditions ($M=3.28$, $SD=2.15$). The variance accounted for by this effect (ω^2) was .195.

Table 1

ANOVA: Goal Specificity Manipulation Check - Item 2

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	113.611	3	37.870	13.308*
GOAL	103.361	1	103.361	36.323*
INT	4.000	1	4.000	1.406
COM	6.250	1	6.250	2.196
2-WAY INTERACTIONS	7.917	3	2.639	0.927
GOAL INT	1.778	1	1.778	0.625
GOAL COM	3.361	1	3.361	1.181
INT COM	2.778	1	2.778	0.976
3-WAY INTERACTION	2.778	1	2.778	0.976
EXPLAINED	124.306	7	17.758	6.241*
RESIDUAL	387.000	136	2.846	
TOTAL	511.306	143	3.576	

* $p < .001$

A significant difference in the predicted direction confirms that subjects perceived the assigned goal as more specific in specified goal conditions.

The results from item 12 ("I had in mind a specific goal as I worked on the task") were more complex. This item seems to tap the subjects' personal interpretation of the assigned goal, rather than simply the subjects' understanding of the manipulation. As predicted, a significant main effect ($\omega^2=.085$) was found for the specificity manipulation (see Table 2). The goal specificity group ($\underline{M}=2.22$, $\underline{SD}=1.40$) indicated greater agreement with the item than the non-specified goal group ($\underline{M}=3.29$, $\underline{SD}=1.94$). However, the goal specificity/compliance interaction ($\omega^2=.031$) as well as the internalization/compliance interaction ($\omega^2=.031$) also reached significance (Table 2).

With regard to the goal specificity/compliance interaction: an analysis of simple effects showed individuals in reward conditions reported their personal goals to be specific both in specified goal conditions ($\underline{M}=2.44$, $\underline{SD}=1.66$) and non-specified goal conditions ($\underline{M}=2.83$, $\underline{SD}=1.82$), $F(1,136)=2.72$, ns. When no reward was present, subjects reported they had in mind a more specific goal in specified goal conditions ($\underline{M}=2.00$, $\underline{SD}=1.04$) as compared to non-specified goal conditions

Table 2

ANOVA: Goal Specificity Manipulation Check - Item 12

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	44.743	3	14.914	5.621***
GOAL	41.174	1	41.174	15.519***
INT	1.563	1	1.563	0.589
COM	2.007	1	2.007	0.756
2-WAY INTERACTIONS	35.354	3	11.785	4.442**
GOAL INT	2.007	1	2.007	0.756
GOAL COM	16.674	1	16.674	6.284*
INT COM	16.674	1	16.674	6.284*
3-WAY INTERACTION	7.563	1	7.563	2.850
EXPLAINED	87.660	7	12.523	4.720***
RESIDUAL	360.833	136	2.653	
TOTAL	448.493	143	3.136	

* $p < .05$
 ** $p < .01$
 *** $p < .001$

($\underline{M}=3.75$, $\underline{SD}=1.98$), $\underline{F}(1,136)=20.78$, $p<.01$. In essence, the specificity manipulation had more impact on this item when no reward was offered.

A compliance/internalization interaction was also in evidence. When a reward was present, individuals in high value relevance conditions ($\underline{M}=2.19$, $\underline{SD}=1.28$) reported their personal goals to be more specific than subjects in low value relevance conditions ($\underline{M}=3.08$, $\underline{SD}=2.03$), $\underline{F}(1,136)=5.36$, $p<.05$. When no reward was offered, no significant difference ($\underline{F}(1,136)=1.51$, ns) was found between subjects in high value relevance ($\underline{M}=3.11$, $\underline{SD}=2.04$) and low value relevance conditions ($\underline{M}=2.64$, $\underline{SD}=1.52$).

As can be judged by the respective ω^2 statistics, the predicted main effect for specified versus non-specified goals accounted for a much greater proportion of variance than the interaction effects for item 12. Further, item 2, which was a more direct assessment of the manipulation, showed only the expected main effect. It seems subjects did indeed perceive specified goals as more specific.

Compliance. A check on the compliance manipulation (reward versus no reward) was provided by items 7 and 14 in the questionnaire (see Appendix C). These two items were positively correlated ($\underline{r}=.74$, $p<.001$), and their additive combination was used in a 2X2X2 analysis of variance using the goal specificity, compliance, and

internalization factors. As expected, a significant compliance effect was found ($\omega^2=.625$). Individuals in reward conditions ($\underline{M}=4.96$, $\underline{SD}=2.68$) showed more agreement that rewards would be linked with task performance than individuals in the no reward conditions ($\underline{M}=11.86$, $\underline{SD}=2.65$). The summary table may be found in Table 3. The value relevance manipulation also yielded a significant but small effect ($\omega^2=.008$) on this variable. Individuals in high value relevance conditions ($\underline{M}=7.94$, $\underline{SD}=4.16$) indicated more agreement than those in low value relevance conditions ($\underline{M}=8.88$, $\underline{SD}=4.54$). The other main effect and interactions did not reach significance. The predicted effect of the compliance manipulation was much stronger on these items than that of internalization. Subjects in reward conditions and no reward conditions understood the instructions.

Internalization. The internalization manipulation (high value relevance versus low value relevance) was checked by items 1 and 5 in the questionnaire (see Appendix C). The two items were positively correlated ($\underline{r}=.57$, $p<.001$) and the additive combination of these items was used as a dependent variable in a 2X2X2 analysis of variance identical to those used for the other manipulation checks. As expected, a main effect ($\omega^2=.160$) was found for the internalization manipulation (Table 4).

Table 3

ANOVA: Compliance Manipulation Check

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	1748.521	3	582.840	83.346**
GOAL	2.007	1	2.007	0.287
INT	31.174	1	31.174	4.458*
COM	1715.340	1	1715.340	245.292**
2-WAY INTERACTIONS	17.688	3	5.896	0.843
GOAL INT	5.063	1	5.063	0.724
GOAL COM	5.063	1	5.063	0.724
INT COM	7.563	1	7.563	1.081
3-WAY INTERACTION	7.563	1	7.563	1.081
EXPLAINED	1773.771	7	253.396	36.235**
RESIDUAL	951.055	136	6.993	
TOTAL	2724.826	143	19.055	

* $p < .05$
 ** $p < .001$

Table 4

ANOVA: Internalization Manipulation Check

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	175.632	3	58.544	12.606**
GOAL	0.563	1	0.563	0.121
INT	138.063	1	138.063	29.728**
COM	37.007	1	37.007	7.968*
2-WAY INTERACTIONS	4.354	3	1.451	0.313
GOAL INT	1.174	1	1.174	0.253
GOAL COM	2.007	1	2.007	0.432
INT COM	1.174	1	1.174	0.253
3-WAY INTERACTION	18.063	1	18.063	3.889
EXPLAINED	198.049	7	28.293	6.092**
RESIDUAL	631.611	136	4.644	
TOTAL	829.660	143	5.802	

* $p < .01$
 ** $p < .001$

Individuals in the high value relevance conditions ($\underline{M}=5.35$, $\underline{SD}=2.19$) expressed more agreement that the study was value relevant than individuals in the low value relevance conditions ($\underline{M}=7.31$, $\underline{SD}=2.22$). An effect was also found for the compliance manipulation ($\omega^2 = .039$). Individuals in the no reward conditions ($\underline{M}=5.82$, $\underline{SD}=2.20$) demonstrated more agreement that the study was value relevant than individuals in the reward conditions ($\underline{M}=6.83$, $\underline{SD}=2.51$). The other main effect and interactions did not reach statistical significance.

As with the other manipulation checks, the predicted effect was the strongest. Individuals in the value relevance conditions perceived the study as more value relevant. This manipulation was, however, the least effective of the three, judging from the relative size of effects on the manipulation checks.

Goal Value. The items described above assessed the subjects' understanding of the manipulations. The compliance and internalization manipulations were designed not only to have an effect on subjects' perception of the situation, but also to change the value associated with the goal. The value which subjects placed on goal attainment was measured by items 10 and 15 in the questionnaire (see Appendix C). These two items were positively correlated ($\underline{r}=.56$, $\underline{p}<.001$). Their additive

combination was used in an analysis of variance identical to those described above. No main effects or interactions reached significance (see Table 5). The grand mean was 7.16 ($\underline{SD}=2.94$) on a scale ranging from two to fourteen. This indicates a slightly favorable feeling toward goal attainment.

A main effect was expected here for both compliance and internalization manipulations. Although not significant, the differences in means for these manipulations were in the predicted directions. Subjects in value relevance conditions ($\underline{M}=6.81$, $\underline{SD}=2.74$) showed a more favorable feeling toward goal attainment than subjects in low value relevance conditions ($\underline{M}=7.51$, $\underline{SD}=3.11$). Similarly, subjects in reward conditions ($\underline{M}=6.75$, $\underline{SD}=3.02$) stated a slightly more favorable attitude toward goal attainment than those in no reward conditions ($\underline{M}=7.57$, $\underline{SD}=2.82$). The failure of these differences to reach significance may indicate that the manipulations of compliance and internalization did not create the large differentials in the desirability of goal attainment that were sought in the design of the study. This suggests that a larger reward and a stronger manipulation of value relevance may have resulted in a more satisfactory test of the hypotheses.

An alternative explanation of these results is that

Table 5

ANOVA: Goal Value

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	43.410	3	14.470	1.705
GOAL	1.174	1	1.174	0.138
INT	18.063	1	18.063	2.128
COM	24.174	1	24.174	2.848
2-WAY INTERACTIONS	25.688	3	8.563	1.009
GOAL INT	5.840	1	5.840	0.688
GOAL COM	19.507	1	19.507	2.299
INT COM	0.340	1	0.340	0.040
3-WAY INTERACTION	14.063	1	14.063	1.657
EXPLAINED	83.160	7	11.880	1.400
RESIDUAL	1154.167	136	8.487	
TOTAL	1237.327	143	8.653	

Note. No comparison reached significance at $p < .05$

the items measuring value associated with the goal were ambiguous and subjects responses simply reflect that they did not understand the questions being asked.

Goal Difficulty. Subjects' perceptions of the difficulty of assigned goals were measured by items 6 and 11 in the questionnaire (see Appendix C). The correlation between these two items was positive and significant ($r=.75$, $p<.001$). The additive combination of these two items was used in a 2X2X2 analysis of variance. No main effects or interactions reached significance (see Table 6). The grand mean was 9.80 ($SD=3.31$), indicating an assessment that the goal was of moderate difficulty.

These findings support the notion that subjects perceived the goal as difficult but attainable as intended in the design of the study. Further, they weaken any alternative explanation that perceptions of goal difficulty may mediate the relationships of the manipulations with performance.

Goal Acceptance

Three items on the questionnaire (see Appendix C) were designed to measure the extent to which subjects accepted the goals offered by the experimenter. Each item was designed to measure a different aspect of goal acceptance. The three items were only moderately related to each other. Partial correlations were computed,

Table 6

ANOVA: Subjective Goal Difficulty

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	38.354	3	12.785	1.148
GOAL	15.340	1	15.340	1.378
INT	2.007	1	2.007	0.180
COM	21.007	1	21.007	1.887
2-WAY INTERACTIONS	1.688	3	0.563	0.051
GOAL INT	0.063	1	0.063	0.006
GOAL COM	1.563	1	1.563	0.140
INT COM	0.063	1	0.063	0.006
3-WAY INTERACTION	12.840	1	12.840	1.153
EXPLAINED	52.882	7	7.555	0.678
RESIDUAL	1514.278	136	11.134	
TOTAL	1567.160	143	10.959	

Note. No comparison reached significance at $p < .05$

controlling for the effect of treatments. The correlation of item 3 with item 8 was .46, $p < .001$. The correlation of item 3 with item 13 was .23, $p < .01$. Items 8 and 13 were also modestly correlated, $r = .34$, $p < .001$. The moderate degree of relationship between these items supports the notion that they measure related, but conceptually distinct constructs.

Item 8: "It was my intention to meet the goal assigned by the experimenter," was designed to measure the subjects' intentions concerning goal attainment. Oldham (1975) suggested that this item measures a lower order type of goal acceptance. A compliance effect was predicted for this item, with subjects in reward conditions showing a stronger intention to meet the goal. A 2X2X2 analysis of variance yielded no significant main effects or interactions (see Table 7). The mean of all subjects combined was 1.83 ($SD = 1.27$), indicating strong agreement with the item. The correlation of item 8 with production was $-.19$, $p < .05$. High performers tended to agree with the item.

Goal specificity and internalization effects were predicted for all three goal acceptance items. Acceptance was predicted to be higher in value relevance and specified goal conditions. As indicated in Table 7, these effects were not found for lower order goal acceptance.

Table 7

ANOVA: Goal Acceptance - Intention to Complete

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	10.521	3	3.507	2.215
GOAL	5.840	1	5.840	3.690
INT	4.340	1	4.340	2.742
COM	0.340	1	0.340	0.215
2-WAY INTERACTIONS	2.521	3	0.840	0.531
GOAL INT	0.174	1	0.174	0.110
GOAL COM	2.007	1	2.007	1.268
INT COM	0.340	1	0.340	0.215
3-WAY INTERACTION	0.340	1	0.340	0.215
EXPLAINED	13.382	7	1.912	1.208
RESIDUAL	215.278	136	1.583	
TOTAL	228.660	143	1.599	

Note. No comparison reached significance at $p < .05$

Goal acceptance was also measured by item 3: "I tried hard to meet the assigned goal." This item was designed to measure subjects' perceptions of effort toward the goal. Oldham (1975) suggested that this item measures a higher order type of goal acceptance. A 2X2X2 analysis of variance yielded a significant main effect ($\omega^2=.063$) for the goal specificity manipulation (see Table 8). Subjects in specified goal conditions reported more perceived effort toward the goal ($\underline{M}=1.44$, $\underline{SD}=0.85$) than subjects in the non-specified goal conditions ($\underline{M}=2.07$, $\underline{SD}=1.40$). There was also a small but significant internalization effect ($\omega^2=.026$, see Table 8). Individuals in the high value relevance conditions ($\underline{M}=1.54$, $\underline{SD}=1.02$) reported greater effort toward the goal than those in the low value relevance conditions ($\underline{M}=1.97$, $\underline{SD}=1.32$). The correlation between item 3 and production was $-.15$, $p<.05$. This indicates that high production was associated with agreement with the item.

Finally, goal acceptance was measured by a third item. Item 13: "I thought of the goal assigned by the experimenter as my own goal for the task," was designed to measure the subjects' feelings of goal ownership. According to Oldham (1975) this item measures a higher order type of goal acceptance. A 2X2X2 analysis of variance yielded a small but significant interaction

Table 8

ANOVA: Goal Acceptance - Perceived Effort Toward the Goal

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	24.410	3	8.137	6.161**
GOAL	14.063	1	14.063	10.648**
INT	6.674	1	6.674	5.053*
COM	3.674	1	3.674	2.782
2-WAY INTERACTIONS	0.132	3	0.044	0.033
GOAL INT	0.063	1	0.063	0.047
GOAL COM	0.007	1	0.007	0.005
INT COM	0.063	1	0.063	0.047
3-WAY INTERACTION	0.340	1	0.340	0.258
EXPLAINED	24.882	7	3.555	2.691*
RESIDUAL	179.611	136	1.321	
TOTAL	204.493	143	1.430	

* $p < .05$
 ** $p < .001$

between goal specificity and compliance manipulations ($\omega^2=.035$, see Table 9). This interaction is represented in Figure 1. In reward conditions, there was no significant difference between specified goal ($\underline{M}=3.33$, $\underline{SD}=1.96$) and non-specified goal groups ($\underline{M}=2.78$, $\underline{SD}=1.61$), $\underline{F}(1,136)=1.65$, ns. In no reward conditions, individuals in specified goal groups ($\underline{M}=2.72$, $\underline{SD}=1.78$) expressed stronger feelings of goal ownership than those in non-specified goal groups ($\underline{M}=3.69$, $\underline{SD}=2.03$), $\underline{F}(1,136)=5.05$, $p<.05$. No other main effects or interactions reached statistical significance. The correlation of this item with production was not significant ($\underline{r}=-.03$, ns).

The results for goal acceptance were mixed. The findings and the hypotheses to which they are relevant are summarized below.

Hypothesis 1. Goal acceptance, as measured by the intention to complete item, should be greater in reward conditions as compared to no reward conditions. This hypothesis was not supported. Subjects in both reward and no reward conditions expressed a strong intention to meet the goal.

Hypothesis 2. Goal acceptance, as measured by all three items, should be greater in value relevance conditions as compared to low value relevance conditions.

Table 9

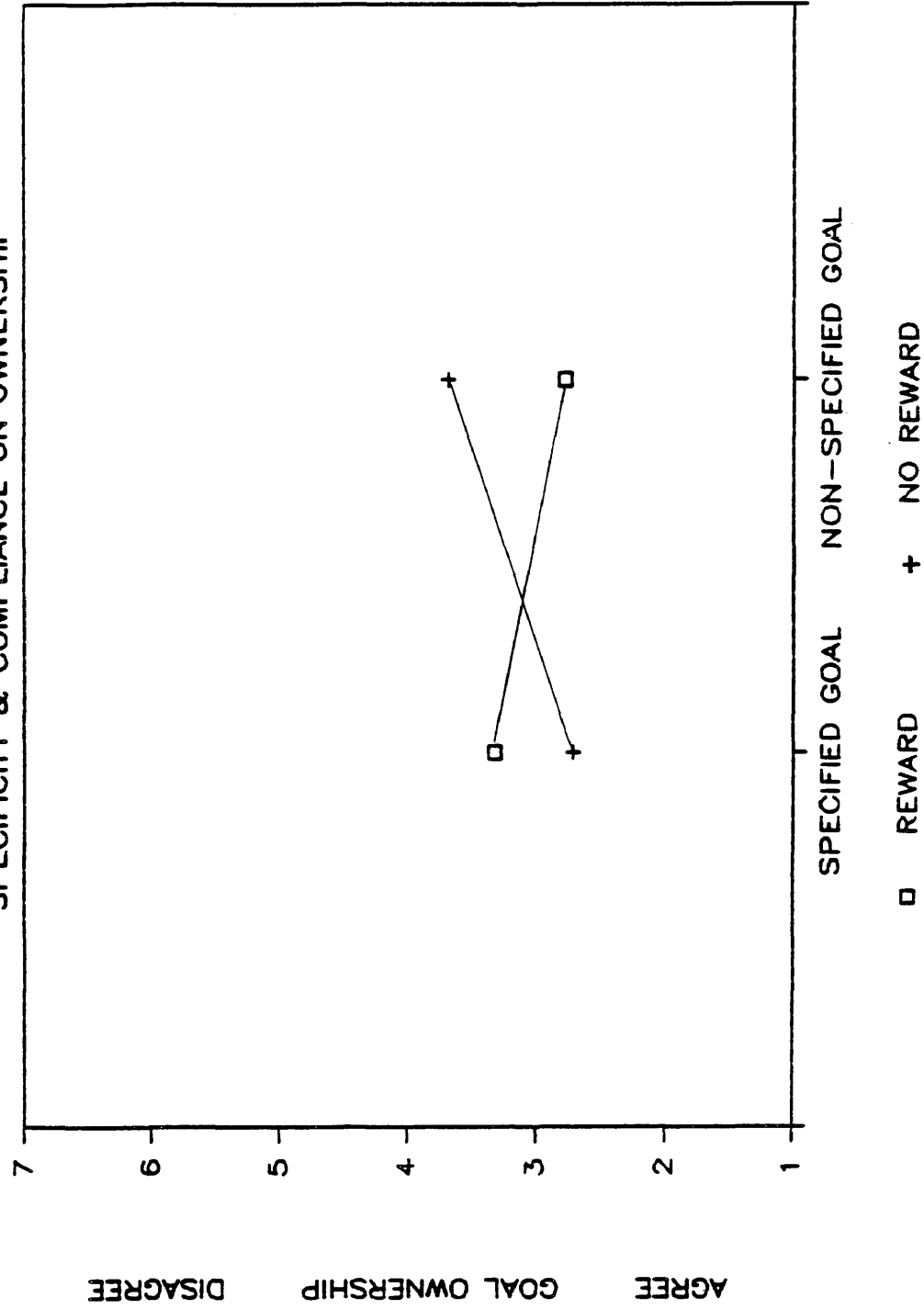
ANOVA: Goal Acceptance - Goal Ownership

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	11.910	3	3.970	1.180
GOAL	1.563	1	1.563	0.464
INT	9.507	1	9.507	2.825
COM	0.840	1	0.840	0.250
2-WAY INTERACTIONS	32.021	3	10.674	3.171*
GOAL INT	6.674	1	6.674	1.983
GOAL COM	21.007	1	21.007	6.242*
INT COM	4.340	1	4.340	1.290
3-WAY INTERACTION	0.840	1	0.840	0.250
EXPLAINED	44.771	7	6.396	1.900
RESIDUAL	457.722	136	3.366	
TOTAL	502.493	143	3.514	

* $p < .05$

FIGURE 1.
SPECIFICITY & COMPLIANCE ON OWNERSHIP



The internalization manipulation had an effect on goal acceptance, but only on one item: the item measuring perceived effort toward the goal.

Hypothesis 3. Goal acceptance, as measured by all three items, should be greater in specified goal conditions as compared to non-specified goal conditions. (a) Goal specificity did not have an effect on the item measuring subjects intention to complete the goal. (b) Acceptance, as measured by the effort toward the goal item, did show a significant difference in the expected direction. Subjects in specified goal conditions reported perceptions of greater effort toward the goal than those in non-specified goal conditions. (c) On the goal ownership item, goal specificity interacted with the compliance manipulation. This is represented in Figure 1 and described above.

Performance Variables

Assumptions. The analysis of production and errors was conducted, in part, using the analysis of covariance technique. This type of procedure was chosen to provide a more powerful test of the hypotheses. Locke et al. (1981) point out: "If ability is not controlled, it becomes error variance when testing for a motivational effect" (p. 146).

Three separate analyses were planned using

production, errors, and error rate as dependent variables. The covariates were pretest production, pretest errors, and pretest error rate, respectively. Goal specificity, internalization, and compliance manipulations served as independent variables.

The correlations of the dependent variables with their respective covariates were as follows:

(a) production/pretest production, $r=.56$, $p<.001$,
(b) errors/pretest errors, $r=.12$, ns., (c) error rate/pretest error rate, $r=.21$, $p<.01$. It follows that analysis of covariance is appropriate only for the production and error rate analyses. Since errors and pretest errors are not correlated, using pretest errors as a covariate would not lead to a more powerful test. Analysis of covariance was used only for production and error rate.

Elashoff (1969) discusses several assumptions that must be met if analysis of covariance is to be a valid technique. These assumptions are (a) the covariate is statistically independent of treatment effects, (b) there is homogeneity of regression; that is, the slope of the regression of the criterion variable on the covariate is the same for all treatment groups, and (c) the covariate has a linear relationship with the dependent variable.

With regard to the covariate being independent of

treatments, Elashoff (1969) recommends this assumption be met by measurement of the covariate prior to treatment administration and by random assignment of treatments to groups. This assumption has been met for both analyses. Covariates were measured prior to treatments and groups randomly assigned to treatments.

An F -test for homogeneity of regression was performed corresponding to each analysis. The test for the production analysis ($F(7,128)=0.57$, ns) proved non-significant, as did that for error rate ($F(7,128)=1.92$, ns). These tests indicate that in each case where analysis of covariance is to be used, there are no significant differences in the slope of the regression line across treatments.

Linearity was assessed by examining X-Y scatter plots for each treatment group (Elashoff, 1969). In addition, polynomial regression was employed to test for the significance of quadratic and cubic terms. Scatter plots of production data by pretest production appeared linear; however, polynomial regression showed a slightly significant effect for the addition of a quadratic term ($F(1,141)=4.76$, $p<.05$). A test for the cubic term was not significant ($F(1,140)=2.31$, ns). The linear term accounts for approximately 32% of the variance. The quadratic term adds about 2%. Although the quadratic term accounts for

additional variance, the relationship between production and pretest production is generally linear. Therefore, analysis of covariance was conducted.

Scatter plots of error rate by pretest error rate revealed truncated distributions. That is, many subjects (70.1% of the total sample) made no errors in the pretest. Linear relationships were however in evidence. Polynomial regression revealed a significant increment in variance for the quadratic term ($F(1,141)=15.83$, $p<.001$). The cubic term did not add significant variance ($F(1,140)=0.10$, ns). In this case, the linear term accounted for approximately 5% of the variance. The quadratic term accounted for an additional 10%. An examination of the scatter plots showed that the significance of the quadratic term was due to the truncation of the distribution described above. Many subjects did not make errors during the two minute practice session.

Because of the evidence for quadratic trends in both production and error rate analyses, it is suggested that the results of the analyses of covariance be interpreted with caution. Analyses of variance are also presented for both production and error rate.

Production. Production was operationalized in this study as the total number of responses made on the scan

sheets during the 35 minute work period. Production data were used as dependent variable in a 2X2X2 analysis of covariance. The number of responses made during the two minute practice trial was used as a covariate to control for individual differences in ability on the experimental task. Production was predicted to be greater for goal specificity, value relevance, and reward groups.

The results of this analysis yielded a significant main effect ($\omega^2 = .029$) for goal specificity (see Table 10). Individuals in the specified goal conditions ($\bar{M} = 1932.86$, $SD = 345.13$) demonstrated higher production than individuals in the non-specified goal conditions ($\bar{M} = 1773.08$, $SD = 467.41$). Means were also calculated adjusting for the covariate. The adjusted means were 1930.32 and 1775.63 for the specified and non-specified goal conditions, respectively. There were no significant main effects for compliance or internalization. None of the interactions reached significance. An analysis of variance, ignoring pretest ability as a covariate, is reported in Table 11. A similar pattern of results was found.

Hypothesis 4. Production should be higher in reward conditions as compared to no reward conditions. This hypothesis was not supported.

Hypothesis 5. Production should be higher in value relevance conditions as compared to low value relevance

Table 10

Analysis of Covariance: Production

Covariate = Pretest Performance

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
COVARIATE	8035689.000	1	8035689.000	67.875***
MAIN EFFECTS	1051570.000	3	350523.344	2.961*
GOAL	863187.438	1	863187.438	7.291**
INT	130380.281	1	130380.281	1.101
COM	58376.195	1	58376.195	0.493
2-WAY INTERACTIONS	258524.000	3	86174.664	0.728
GOAL INT	239906.063	1	239906.063	2.026
GOAL COM	8507.473	1	8507.473	0.072
INT COM	13044.290	1	13044.290	0.110
3-WAY INTERACTION	5812.000	1	5812.000	0.049
EXPLAINED	9351595.000	8	1168949.375	9.874***
RESIDUAL	15982525.000	135	118389.070	
TOTAL	25334120.000	143	177161.672	

* $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 11

ANOVA: Production

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	924947.375	3	308315.781	1.728
GOAL	919041.750	1	919041.750	5.151*
INT	5903.361	1	5903.361	0.033
COM	2.250	1	2.250	0.000
2-WAY INTERACTIONS	40973.500	3	13657.833	0.077
GOAL INT	26.694	1	26.694	0.000
GOAL COM	25653.361	1	25653.361	0.144
INT COM	15293.444	1	15293.444	0.086
3-WAY INTERACTIONS	102827.125	1	102827.125	0.576
EXPLAINED	1068748.000	7	152678.281	0.856
RESIDUAL	24265372.000	136	178421.859	
TOTAL	25334120.000	143	177161.672	

* $p < .05$

conditions. This hypothesis was not supported.

Hypothesis 6. Production should be higher in specified goal conditions as compared to non-specified goal conditions. Support was found for this hypothesis. As predicted, specified goals led to higher production than non-specified goals.

Errors and Error Rate. The number of errors made by subjects during the experimental trial were also analyzed. An error was defined as a blank space or a response which did not follow in the correct sequence from those preceding it. A 2X2X2 analysis of variance was employed. A significant main effect ($\omega^2=.028$) was found for goal specificity (see Table 12). The mean number of errors in specified goal conditions was 15.69 (SD=13.20). The mean of non-specified goal conditions was 11.18 (SD=10.26).

These results parallel those for production. Subjects in specified goal conditions made significantly more responses and errors as compared to subjects in non-specified goal conditions. Further, the correlation between production and errors was significant ($\underline{r}=.23$, $p<.01$). This pattern of results suggests that the increased number of errors may have been a direct result of higher production. The rate of error across conditions may be identical. In order to test this hypothesis, a variable was calculated to represent the number of errors

Table 12

ANOVA: Errors

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	815.632	3	271.877	1.897
GOAL	733.507	1	733.507	5.118*
INT	68.063	1	68.063	0.475
COM	14.063	1	14.063	0.098
2-WAY INTERACTIONS	222.854	3	74.285	0.518
GOAL INT	101.674	1	101.674	0.709
GOAL COM	29.340	1	29.340	0.205
INT COM	91.840	1	91.840	0.641
3-WAY INTERACTIONS	45.563	1	45.563	0.318
EXPLAINED	1084.049	7	154.864	1.081
RESIDUAL	19491.395	136	143.319	
TOTAL	20575.443	143	143.884	

* $p < .05$

made per 1000 responses, or error rate. This variable was calculated for each subject by dividing the number of errors by the total number of responses. The quotient was then multiplied by 1000. A 2X2X2 analysis of covariance using error rate as the dependent variable and pretest error rate as covariate yielded no significant main effects or interactions (see Table 13). An analysis of variance yielded similar results (Table 14). It seems that the manipulations did not have an effect on the rate of errors made in performance of the task. The difference between specified and non-specified goal groups on raw errors seems to be a function of the difference in production, and not due to a higher rate of errors in specified goal conditions.

Hypothesis 7. When a reward is not present, there should be fewer errors in value relevance conditions as compared to low value relevance conditions. In reward conditions, no such difference is predicted. This hypothesis did not receive support.

Goal Description

Subjects were asked to write, in their own words, a description of their goal, purpose or objective in working on the experimental task. These goal descriptions were read by two judges who independently sorted them into one of three categories: (a) non-production related,

Table 13

Analysis of Covariance: Error Rate

Covariate = Pretest Error Rate

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
COVARIATE	254.448	1	254.448	6.694*
MAIN EFFECTS	43.529	3	14.510	0.382
GOAL	41.236	1	41.236	1.085
INT	2.432	1	2.432	0.064
COM	0.002	1	0.002	0.000
2-WAY INTERACTIONS	140.977	3	46.992	1.236
GOAL INT	21.178	1	21.178	0.557
GOAL COM	28.836	1	28.836	0.759
INT COM	90.906	1	90.906	2.392
3-WAY INTERACTION	26.165	1	26.165	0.688
EXPLAINED	465.118	8	58.140	1.530
RESIDUAL	5131.259	135	38.009	
TOTAL	5596.377	143	39.136	

* $p < .05$

Table 14

ANOVA: Error Rate

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	85.165	3	28.388	0.720
GOAL	77.056	1	77.056	1.954
INT	5.604	1	5.604	0.142
COM	2.505	1	2.505	0.064
2-WAY INTERACTIONS	128.666	3	42.889	1.088
GOAL INT	26.889	1	26.889	0.682
GOAL COM	16.391	1	16.391	0.416
INT COM	85.385	1	85.385	2.165
3-WAY INTERACTIONS	19.755	1	19.755	0.501
EXPLAINED	233.586	7	33.369	0.846
RESIDUAL	5362.792	136	39.432	
TOTAL	5596.377	143	39.136	

Note. No comparison reached significance at $p < .05$

(b) production related but non-specific, and
(c) production related and specific. When the judges sorted goal descriptions into categories, they were blind as to which experimental condition each subject was assigned. The judges agreed on classification of 92% of the goal descriptions. Where there was disagreement, the item was assigned to a category according to the consensus of the judges. The sorting of goal descriptions resulted in 41 responses assigned to the non-production related category, 51 to production related/non-specific and 52 to production related/specific. Forty of the 72 subjects in specified goal conditions gave a production related/specific goal compared to 12 of the 72 non-specified goal subjects.

A number of one-way analyses of variance were performed using goal description as the independent variable. The goal descriptions may be looked upon as measures of individuals' personal goals.

There was a significant effect ($\omega^2 = .054$) when total responses were used as a dependent variable (see Table 15). The means and standard deviations of non-production related, production related/non-specific, and production related/specific groups were 1724.02 (SD=450.73), 1818.22 (SD=463.31), and 1988.73 (SD=305.93), respectively. A Scheffe test indicated a significant difference between

Table 15

ANOVA: Production by Goal Classification

Independent Variable = Goal Classification

SOURCE OF VARIATION	SUM OF SQUARES	<u>DF</u>	MEAN SQUARE	<u>F</u>
EXPLAINED	1701729.489	2	850864.750	5.077*
RESIDUAL	23632405.000	141	167605.703	
TOTAL	25334134.000	143		

* $p < .01$

the non-production related and production related/specific groups ($p < .01$). No other comparisons reached significance.

Similar analyses were performed using total errors (Table 16) and error rate (Table 17) as dependent variables. No significant effects were found.

These analyses were carried out to confirm that the results for personal goals correspond to those using assigned goal as the independent variable. The results generally confirmed those of other analyses.

Task Interest

The extent to which subjects found the experimental task interesting was measured by items 4 and 9 on the post-experimental questionnaire (see Appendix C). For the purposes of analysis, the ratings on item 9 were reversed. After this adjustment, higher scores on both items indicate a higher degree of interest in the task. With the scaling reversed on item 9, the correlation between the two items was positive and significant ($r = .42$, $p < .001$). The mean of the two items combined was 5.83, indicating a perception of the task as slightly boring.

The additive combination of the two items was used as a dependent variable in a $2 \times 2 \times 2$ analysis of variance (see Table 18). Task interest was predicted to be greater in specified goal conditions. There was a significant main

Table 16

ANOVA: Errors by Goal Classification

Independent Variable = Goal Classification

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
EXPLAINED	23.729	2	11.865	0.081
RESIDUAL	20551.706	141	145.757	
TOTAL	20575.436	143		

Note. The comparison did not reach significance at $p < .05$

Table 17

ANOVA: Error Rate by Goal Classification

Independent Variable = Goal Classification

SOURCE OF VARIATION	SUM OF SQUARES	<u>DF</u>	MEAN SQUARE	<u>F</u>
EXPLAINED	85.300	2	42.650	1.091
RESIDUAL	5511.077	141	39.086	
TOTAL	5596.377	143		

Note. The comparison did not reach significance at $p < .05$

Table 18

ANOVA: Task Interest

Independent Variables = Goal Specificity (GOAL)
 Internalization (INT)
 Compliance (COM)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F
MAIN EFFECTS	63.465	3	21.155	2.701*
GOAL	45.563	1	45.563	5.817*
INT	5.063	1	5.063	0.646
COM	12.840	1	12.840	1.639
2-WAY INTERACTIONS	24.688	3	8.229	1.051
GOAL INT	18.063	1	18.063	2.306
GOAL COM	5.063	1	5.063	0.646
INT COM	1.563	1	1.563	0.199
3-WAY INTERACTION	15.340	1	15.340	1.959
EXPLAINED	103.493	7	14.785	1.888
RESIDUAL	1065.167	136	7.832	
TOTAL	1168.660	143	8.172	

* $p < .05$

effect for goal specificity ($\omega^2=.032$): individuals in the specified goal conditions ($\underline{M}=6.39$, $\underline{SD}=2.71$) rated the task as more interesting than individuals in the non-specified goal conditions ($\underline{M}=5.26$, $\underline{SD}=2.91$). No other main effects or interactions reached significance. Task interest was not significantly correlated with any of the three measures of goal acceptance or with production.

Hypothesis 8a. Measures of intrinsic interest should correlate with all measures of goal acceptance and with production. No support was found for this hypothesis.

Hypothesis 8b. Task interest should be greater in specified goal conditions as compared to non-specified goal conditions. This hypothesis was supported. The task was perceived as more interesting in specified goal conditions.

Discussion

Goal Acceptance

Lower order goal acceptance (intention to complete) was uniformly high and not affected by goal specificity, internalization, or compliance manipulations. There was a significant correlation between responses to this item and production. These results suggest this lowest level of acceptance may be the easiest to achieve in an assigned goal setting situation. Subjects almost universally indicated an intention to complete the assigned goal even in conditions where there was no real reason to do so (low value/no reward conditions). Such behavior is interesting in that the assigned task was relatively long and rather boring. This suggests that to have an effect on this level of acceptance in a laboratory setting, active efforts may be necessary to discourage goal acceptance, similar to those in Erez and Zidon (1984).

Higher order goal acceptance, as measured by perceived effort toward the goal, was affected by both the specificity and internalization manipulations. Specific goal and value relevance conditions showed greater perceived effort. This item was correlated with production. Since this item did respond to the manipulations, effort toward the goal seems to be a more sensitive indicator of higher levels of acceptance. This

type of acceptance seems less easy to achieve.

The specificity effect is of particular interest here. Subjects said, in effect, that they tried harder to meet the goal when the goal they were assigned was specific. The main effect of specificity for this variable supports the hypothesis that changes in goal acceptance may be at least one reason that specific goals lead to higher production. This hypothesis has not been tested before, and in this study a relatively strong effect was found. The major objection to this conclusion stems from the fact that goal acceptance was assessed after task performance. Subjects' perceptions of effort toward the goal may have changed in some way during the course of the experiment. In answer to this objection, it should be recalled that Oldham (1975) found no differences on this type of item when perceived effort toward the goal was measured before as opposed to after task performance.

Higher order goal acceptance as measured by the goal ownership item showed an interaction with the goal specificity and compliance manipulations (Figure 1). This was the only acceptance item in the study not correlated with production. Deci's (1975) theory of intrinsic motivation may help provide an explanation for the interaction. Individuals in reward conditions may have perceived the reward as controlling. Those in no reward

conditions were provided with competence information in specified goal conditions but had very little competence information in non-specified goal conditions. Assuming these sets of perceptions were in place, the shifting locus of causality would account for the observed interaction. This explanation is consistent with Dossett's (1981) notion of internal and external justification in his multilevel model of goal acceptance and commitment.

It should be noted that this interaction was not predicted and was not large in magnitude. Although firm conclusions cannot be drawn, it is suggestive for future research.

The results in general are very consistent with a multilevel view of goal acceptance. The manipulations did in fact differentially affect the three measures of goal acceptance. These items, in turn, had different relationships to performance. It seems that the three items were measuring different constructs. This helps to explain the inconsistent results found in the goal acceptance literature. When goal acceptance has been measured, all three types of items have been used. Based on the results of this study, one would expect to find such inconsistent results.

Another notable point concerning goal acceptance is

the finding that both intention to complete and perceived effort items were correlated with production. As discussed in the literature review, the relationship between goal acceptance and performance has been found only a few times in the past. In all cases, including the present one, the major distinction between studies with positive versus negative results has been design considerations that allow the goal acceptance effect to emerge. In the present study, social influence was introduced in order to increase the variance of goal acceptance.

Task Performance

The only manipulation to have an effect on production was the specificity manipulation. The compliance and internalization manipulations showed no effect. It is not surprising that the specificity effect emerged, as this has been one of the most consistent findings in goal setting literature (see Locke et al., 1981). The failure of the other manipulations to reach significance may have been due to the weakness of their manipulation. Measures of value associated with the goal did not show a significant effect for these manipulations, although differences were in the predicted directions. At the same time, manipulation checks assessing the subjects' understanding of the manipulations showed significant

effects in the predicted directions. This suggests the possibility that the manipulations had the desired effects, but were not great enough in strength. The one dollar reward and the value relevance instructions did not fully create the perception that goal attainment was highly desirable. Although these manipulations were pilot tested, that testing was an evaluation by subjects of a hypothetical situation. It would have been beneficial if the pilot testing had more closely approximated the actual manipulations. The weakness of the manipulations may explain not only the failure of expected production relationships to materialize, but also relationships predicted for goal acceptance and errors.

Raw errors were also found to be affected only by the specificity manipulation. Further analysis showed, however, that the error rate was not significantly different for specified and non-specified goals. The predicted reduction of errors in no reward/value relevance conditions was not in evidence. One possible reason for this finding was the problem in manipulation described above. It is also possible that goal commitment does not automatically lead to reduced errors. Consider a case where speed and few errors are both goals but speed is the only response being rewarded. It is possible that internalization of the quality goal could lead to a

reduction of errors in such a situation. The present study does not correspond to this case. Subjects were given a production goal (speed) but a quality goal was not explicitly provided. In the present study, the internal justification of the goal would not necessarily lead to higher quality.

Task Interest

As predicted, subjects found the task more interesting when a specific goal was set. This lends support to Mossholder's (1980) finding that boring tasks are made more interesting by specific goals. Mossholder's finding that such goals decrease interest on stimulating tasks was not investigated in this study.

The failure of task interest to correlate with measures of acceptance and with production does not support Oldham's (1975) hypothesis that task characteristics influence higher level goal acceptance. This is not a serious blow to his hypothesis. The investigation of this notion was exploratory in this study. A good test of the hypothesis would involve manipulation of the characteristics of the task in order to create conditions of greater or lesser interest.

Future Research

The success of the present research in finding different patterns of results for the various measures of

goal acceptance suggests that this course of research could yield valuable results. It is clear that goal acceptance is not a simple construct. It is a complex phenomenon having multiple determinants and leading to multiple results.

The most clear implication for future research has to do with the measurement of goal acceptance. Researchers need to pay close attention to the manner in which this construct is measured and be sure that the measurement of acceptance corresponds to the objectives of their research. An item measuring goal ownership will yield different results than an item measuring effort toward the goal or intention to complete.

Another interesting approach that could be taken would be a refinement in the measurement of goal acceptance. While the present study used multiple items, it is clear that these items were measuring different constructs. It might prove very useful to develop larger scales which allow the reliable measurement of the different levels of goal acceptance. Such scales may be of value in applied settings. It could be useful for organizations to understand the type and intensity of goal acceptance its members were experiencing toward organizational and individual goals.

It is notable that many of the hypothesized

relationships were present, even though the manipulations were not as strong as desired. This suggests that future research investigating social influence as a determinant of acceptance may be fruitful. It may be advisable in this research to include influence attempts at both acceptance and at rejection. In the present study, influence attempts were aimed at increasing goal acceptance. It is possible that the demand characteristics of the experimental situation create such strong feelings of goal acceptance that further efforts to increase acceptance are in vain. It might be useful to include social influence that is directed at both increasing acceptance, and directed at decreasing it. Another useful approach would be to take this research outside the laboratory into settings where acceptance might more variable. Kelman's model seems very well suited to such research.

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Appendix A
Informed Consent



University of
Nebraska
at Omaha

College of Arts and Sciences
Department of Psychology
Omaha, Nebraska 68182-0274
(402) 554-2592

Investigator: Kim Kohlhepp
554-2776

Advisor: Wayne Harrison
554-2452

INFORMED CONSENT

You are invited to participate in an experiment in which participants will be asked to work for 35 minutes on a task which involves the completion of computer scan sheets with a specific pattern of dots. If you decide to participate, you will also complete a short questionnaire concerning your understanding of the experiment. Debriefing (or an explanation of the study) will immediately follow the experimental session. Total time required for completion of participation will not exceed one hour.

The purpose of this research is to investigate the nature of task performance. Participation in this study will not benefit you in any significant way. There are no discomforts or inconveniences in this experiment. Participation is voluntary. Your decision whether or not to participate will not affect your present or future relationship with the University of Nebraska. If you decide to participate, you are free to discontinue participation at any time.

Many instructors offer extra credit for participation in research. Should you decide to participate in this experiment, you will receive a card indicating the amount of time you spent as a volunteer. If you decide not to participate in the experiment, you may receive extra credit by participation in other experiments or through any other opportunities which your instructor may have made available.

Any information obtained in connection with this study that could be identified with you will remain confidential. If you have any questions concerning the study, feel free to ask at any time. If questions occur to you after the experimental session, please call the experimenter or advisor at the numbers listed above.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ THE INFORMATION PROVIDED ABOVE. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

Signature of Subject

Date

Signature of Investigator

Appendix B
Example of Experimental Task

*University
of
Nebraska*

NAME _____	LAST _____ FIRST _____ MIDDLE _____	CALL NO. _____
COURSE _____	INSTRUCTOR _____ TEST NO. _____	
BOOKLET NO. _____	DATE _____	

GENERAL PURPOSE ANSWER SHEET

DIRECTIONS: Read each question completely. When you have decided on the correct answer to the question, blacken the appropriate space on this sheet with a NO. 2 PENCIL and completely fill the area.

If you want to change an answer, erase your first mark COMPLETELY. Make no stray marks, they may count against you.

Read any directions on the examination copy for specific instructions that accompany each section of the test.

REFER TO THIS EXAMPLE BEFORE MARKING SHEET

EXAMPLE

WRONG ☐ ☒ ☐ WRONG ☐ ☒ ☐

WRONG ☐ ☐ ☒ RIGHT ☐ ☐ ☒

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17 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	37 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	57 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	77 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	97 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	117 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
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Appendix C
Questionnaire

Circle one number for each item using the following scale:

1	2	3	4	5	6	7
STRONGLY	AGREE	MILDLY	NEUTRAL	MILDLY	DISAGREE	STRONGLY
AGREE		AGREE		DISAGREE		DISAGREE

1. This type of research serves a useful purpose.
1 2 3 4 5 6 7
2. The experimenter set a specific goal for the task.
1 2 3 4 5 6 7
3. I tried hard to meet the assigned goal.
1 2 3 4 5 6 7
4. The task was boring and repetitive.
1 2 3 4 5 6 7
5. The results of this research may find application in the real world.
1 2 3 4 5 6 7
6. I found the goal set by the experimenter very difficult.
1 2 3 4 5 6 7
7. The experimenter will reward those who meet the goal.
1 2 3 4 5 6 7
8. It was my intention to meet the goal assigned by the experimenter.
1 2 3 4 5 6 7
9. The task was intrinsically interesting.
1 2 3 4 5 6 7
10. Meeting the goal on the task would lead to results I find valuable.
1 2 3 4 5 6 7
11. The goal set by the experimenter was very hard.
1 2 3 4 5 6 7
12. I had in mind a specific goal as I worked on the task.
1 2 3 4 5 6 7
13. I thought of the goal assigned by the experimenter as my own
goal for the task.
1 2 3 4 5 6 7
14. The rewards the experimenter administers to individuals in
this study will depend on how well they do on the task.
1 2 3 4 5 6 7
15. There was a good reason for working toward the goal on the task.
1 2 3 4 5 6 7

On the back of this paper, please write in your own words your goal, purpose or objective in working on this task.